ISBN : 978-979-8689-10-9

IES 2007

Proceeding of the 9th INDUSTRIAL ELECTRONICS SEMINAR 2007

Organized by:

ITS
Institut Teknologi Sepuluh Nopember

Electronic Engineering
Polytechnic Institute of Surabaya
Institut Teknologi Sepuluh Nopember

IECI

Indonesian Society on Electrical
Electronic, Communication,
and Information

November 8th, 2007
EEPIS - ITS, Surabaya
Indonesia

Abstract

Shunt active power filters are usually used to reduce harmonic contents that are caused by inductive nonlinear loads. The type of compensating process will determine the currents injected by the shunt active power filter and finally affect the rating of the components implemented such as dc-link capacitor instead of dc power supply. In this paper, the influences of capacitor parameters on the filtering characteristics are analyzed. The results show that the compensating power generated by the shunt active power filter determines the parameters of dc-link capacitor. Simulations using a three-phase four-wire shunt active power filter under balanced and unbalanced nonlinear loads are done to verify the analysis.